



2021 September 10

Mr. Marc Leblanc  
Commission Secretary  
Canadian Nuclear Safety Commission  
280 Slater Street, P.O. Box 1046, Station B  
Ottawa, Ontario, K1P 5S9

Dear Mr. Leblanc,

**APPLICATION FOR RENEWAL OF THE PORT HOPE PROJECT WASTE NUCLEAR SUBSTANCE  
LICENCE WNSL-W1-2310.02/2022**

The purpose of this letter is to apply for a renewal of the Canadian Nuclear Laboratories (CNL) *Port Hope Project Waste Nuclear Substance Licence WNSL-W1-2310.02/2022* (Port Hope WNSL) [1] for the term of 10 years. The current Licence expires on 2022 December 31. This application is submitted in accordance with Section 24(2) of the *Nuclear Safety and Control Act* (NSCA) [2].

Pursuant to the NSCA and the associated regulations, CNL is requesting that the Commission, or a person authorized by the Commission, renew the current Port Hope WNSL [1] for a period of 10 years and consolidate the Port Hope WNSL and the *Port Granby Project Waste Nuclear Substance Licence WNSL-W1-2311.02/2021* (Port Granby WNSL) [3] into one licence, as it was proposed in the CNL's *Notice of Intent to Provide Application for Extension of the Port Granby Project Waste Nuclear Substance Licence WNSL-W1-2311.02/2021* [4] and the subsequent *Application for Renewal of the Port Granby Project Waste Nuclear Substance Licence WNSL-W1-2311.02/2021* [5]. The consolidation of the licences is proposed to reduce the administrative burden created by the presence of different licences for similar projects under the Port Hope Area Initiative (PHAI) portfolio. CNL acknowledges that the application for consolidation of the licences will require a public hearing in 2022 for the renewal of both the Port Granby and Port Hope licences.

In addition to the CNL's request to renew and combine the Port Hope and Port Granby WNSL's into a single licence for both projects, CNL is requesting the following items be considered during the licence renewal:

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2021 SEPTEMBER 10

4501-CNNO-21-0030-L

#### - **Application for Licence Amendment**

In March of 2020 CNL submitted a request to the Commission [6] to amend the current cleanup criteria for arsenic and uranium, as identified in Appendix C of the Port Hope Project WNSL [1]. The CNSC provided a response to the CNL's request in April of 2020 [7] indicating that the application was not complete and additional information to support the request would be required.

Based on the feedback received, CNL has revised the technical documentation provided in the initial request for amendment [6], and incorporated the comments received through correspondence and technical discussions with CNSC Staff, Health Canada, and the Ministry of Environment, Conservation and Parks.

In the fall of 2020 CNL undertook a formal public engagement campaign to promote awareness of and solicit feedback on the proposed licence amendment application. CNL employed a wide variety of methods to inform, educate and discuss the proposed amendment with stakeholders and Indigenous groups, and to encourage and enable the public to provide feedback. The results of this public engagement campaign were submitted to CNSC staff in 2021 January [8].

Enclosed with this application are the formal comment and disposition tables provided by the CNSC and Health Canada [9] and the Ministry of Environment, Conservation and Parks (MECP) [10] on the CNL's request for licence amendment [6], the updated technical report *A Review of Arsenic in Soils as Part of the Port Hope Area Initiative* [11], the CNL's Public Engagement Plan for 2021 and 2022 [12], and the additional documentation that evaluated the environmental effects potentially resulting from the proposed changes [13]. Also enclosed here for convenience is the report *Criterion Evaluation for Uranium in Soil In Port Hope*, submitted previously to CNSC staff [14].

CNL considers the information provided with this application to be adequate in support of the request to the Commission to amend the current Port Hope WNSL cleanup criteria for arsenic and uranium identified in Appendix C of the PH WNSL [1].

#### - **Effluent Release Limits**

In April of 2020, the Port Hope Project Waste Water Treatment Plant Release Limits were approved by the CNSC, and were considered effective immediately [15]. CNL has continued reporting the effluent monitoring results as a monthly average and maximum weekly in the quarterly reports submitted to CNSC staff. In addition, and in line with the *Metal Mining and Effluent Regulations* [16], CNL performs toxicity testing on a quarterly basis.

CNL is requesting the effluent release limits in Table 1 be integrated into the Port Hope Licence Conditions Handbook.



**Table 1: Release Limits at the Port Hope Project Waste Water Treatment System**

Contaminant	Units	Weekly Concentration in a Composite Sample	Monthly Mean Concentration
Radium-226	Bq/L	0.74	0.37
Total Arsenic (As)	mg/L	0.30	0.15
Total Aluminum (Al)	mg/L	0.22	0.11
Total Copper (Cu)	mg/L	0.03	0.015
Total Lead (Pb)	mg/L	0.046	0.023
Total Uranium (U)	mg/L	0.30	0.15
Total Zinc (Zn)	mg/L	0.42	0.21
pH	pH	6.0 – 9.0	6.0 – 9.0
Total Suspended Solids	mg/L	30	15
Acute Toxicity	-	-	Cannot be toxic <sup>1</sup>

<sup>1</sup> Acute toxicity testing is to be performed at a frequency no less than quarterly

Based on the CNSC's recently released or updated waste management and decommissioning Regulatory Documents (REGDOCs), CNL was requested [17] to determine the requirements, in part or whole, that apply to both Port Hope and Port Granby licences, including the complementary CSA standards that are deemed relevant to CNL regulated facilities and activities. The preliminary assessment is complete, and CNL will work with CNSC staff to confirm the proposed applicability and will provide the supporting gap analysis and pertinent implementation plans for both Port Hope and Port Granby licences. As per the CNL's response [18], this will be submitted to CNSC staff by 2022 January 31.

A detailed breakdown of how CNL conforms to the requirements for licence application is provided in Attachment A. Also enclosed is the financial guarantee for all sites operated by CNL [19].

Please note that the enclosed documents which carry a security designation "Official Use Only", may be treated by CNSC staff as "Unrestricted".



2021 SEPTEMBER 10

4501-CNNO-21-0030-L

Canadian Nuclear Laboratories looks forward to hearing from the Commission with respect to this application. In the interim, should you require any further information, please contact Sarah Brewer at 613-633-8271, or myself at 613-584-8811, extension 42408.

Sincerely,

Mark Hughey  
General Manager  
Historic Waste Program Management Office

Attachment (1)

Enclosures (7)

## References

- [1] Canadian Nuclear Safety Commission, *Waste Nuclear Substance Licence - Port Hope Long-Term Low-Level Radioactive Waste Management Project*, WNSL-W1-2310.02/2022, Expiry Date: 2022 December 31.
- [2] Canadian Nuclear Safety Commission, *Nuclear Safety and Control Act*, 2021 August 10.
- [3] Canadian Nuclear Safety Commission, *Waste Nuclear Substance Licence - Port Granby Long-Term Low-Level Radioactive Waste Management Project*, WNSL-W1-2311.02/2021, Expiry Date: 2021 December 31.
- [4] Letter, S. Parnell (CNL) to M. Leblanc (CNSC), *Notice of Intent to Provide Application for Extension of the Port Granby Project Waste Nuclear Substance Licence WNSL-W1-2311.02/2021*, 4502-CNNO-20-0019-L, 2020 November 17.
- [5] Letter, S. Parnell (CNL) to M. Leblanc (CNSC), *Application for Renewal of the Port Granby Project Waste Nuclear Substance Licence WNSL-W1-2311.02/2021*, 4502-CNNO-21-0005-L, 2021 April 08.
- [6] Letter, S. Morris (CNL) to R. Buhr (CNSC), *Application for Amendment of the Port Hope Long-term Low-Level Radioactive Waste Management Project Waste Nuclear Substance Licence - WNSL-W1-2310.02/2022*, 4501-CNNO-20-0013-L, 2020 March 31.
- [7] Letter, K. Murthy (CNSC) to S. Parnell (CNL), *Application Assessment for the Amendment of the Port Hope Long-Term Low-Level Radioactive Waste Management Project Waste Nuclear Substance Licence*, 4501-NOCN-20-0011-L, 2020 April 27.



2021 SEPTEMBER 10

4501-CNNO-21-0030-L

- [8] Email, S. Morris (CNL) to Z. Reaume (CNSC), *Stakeholder Engagement Report (2018 January – 2020 December)*, 235-513400-REPT-001, 2021 January 15.
- [9] Comment and Disposition Table – CNSC/Health Canada – 2021 February 04.
- [10] Comment and Disposition Table – Ministry of Environment, Conservation and Parks – 2021 June 28.
- [11] Report, *A Review of Arsenic in Soils as Part of the Port Hope Area Initiative*, Revision 1, 4501-121258-REPT-001, 2021 August 26.
- [12] Plan, *Application to Change PHAI Cleanup Criteria – Engagement Strategy*, 2021 August 25.
- [13] Table, *Port Hope Project Screening Report EA Follow- Up Program – Table 12.1*, 2021 August 25.
- [14] Letter, S. Morris (CNL) to R. Buhr (CNSC), *Criterion Evaluation for Uranium in Soil as Part of the Port Hope Area Initiative*, 4501-CNNO-20-0008-L, 2020 February 27.
- [15] Letter, R. Buhr (CNSC) to S. Morris (CNL), *Port Hope Project Waste Water Treatment Plant Release Limits*, 4501-NOCN-20-0006-L, 2020 April 20.
- [16] Government of Canada, *Metal and Diamond Mining Effluent Regulations*, 2021 August 10.
- [17] Letter, C. Cianci (CNSC) to S. Cotnam (CNL), *Implementation of Waste Management and Decommissioning Regulatory Documents*, 145-NOCN-21-0017-L, 2021 July 06.
- [18] Letter, S. Cotnam (CNL) to C. Cianci (CNSC), *CNL Response to CNSC Staff Request – Implementation of Waste Management and Decommissioning Regulatory Documents*, 145-CNNO-21-0046-L, 2021 August 09.
- [19] Letter, P. Boyle (CNL) to K. Murthy. (CNSC), *Submission of Information Regarding Financial Guarantees for All Atomic Energy of Canada Limited Sites Operated by Canadian Nuclear Laboratories*, 145-CNNO-20-0028-L, 2020 August 25.

c.	R. Buhr (CNSC) C. Howden (CNSC) <a href="mailto:forms-formulaires@cnsccsn-gc.ca">forms-formulaires@cnsccsn-gc.ca</a>	C. Cianci (CNSC) K. Murthy (CNSC)	R. Clarke (CNSC)	L. Ethier (CNSC) (CNSC)
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